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Spring 2020

## Exploring female university students' views of campus engagement in CHAARG

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Exploring female university students' views of campus engagement in CHAARG

Lia Giffels

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## **CHAPTER 1: Abstract**

There are positive benefits to group exercise, such as motivation and improved performance. However, strength training poses a gender disparity, with less participation among females.

Changing Health, Attitudes, + Actions to Recreate Girls (CHAARG) is a student organization to empower females to reach health goals by participating in a comprehensive fitness program.

**Purpose:** This investigation explores female college students' views of their experience in CHAARG. Understanding how to engage more women in strength training and healthy lifestyles may fuel increased adherence rates. **Methods:** Q methodology will be used to investigate the viewpoints of female students' members in a large Midwest university. Students will read statements related to strength training and health and how CHAARG plays a role in this. Using a Q-sort grid, statements will be ranked from +5 (most like my view) to -5 (most unlike my view) in conjunction with open-ended qualitative questions in the post-sort survey. **Results:** Data analysis will be analyzed using factor analysis software. Qualitative data from the post-sort survey will investigate major themes. **Conclusion:** Empowering women to explore strength training is the goal of CHAARG. This exploratory project will propel research into the benefits of campus involvement in CHAARG.

## **CHAPTER 2: Literature Review**

Exercise is important in preventing the development of chronic disease and premature death (Warburton et al., 2006). Regular physical activity can prevent conditions such as cardiovascular disease, diabetes, hypertension, obesity, cancer, and more. The American College of Sport Medicine (ACSM) explains that 150 minutes per week of exercise can lead to a prevention of chronic diseases (ACSM, 2018). ACSM has created Exercise is Medicine (EIM) in 2007. The goal of this movement is to make physical activity assessment a normal part of a routine check-up with physicians. The design of this study is an effort to explore female college students' views of their experience in a student organization that focuses on fitness and health for females. Understanding how to engage more women in strength training and healthy lifestyles may fuel increased adherence rates. A solution cannot be proposed without first giving clarification about the topics of strength training in women, body image and the role of social media, the benefits of group exercise, and campus involvement.

### **Strength Training**

Strength and resistance training are tools to assist individuals to live healthy lifestyles. ACE Fitness mentions that women avoid strength training due to a fear of becoming too bulky and muscular. However, this is physically impossible, because women do not produce as much testosterone as men, so women cannot get as bulky as men do (McCall, 2014). On the other hand, with strength and resistance training, women can increase their lean muscle mass.

Resistance training can help to manage and treat many conditions, such as cardiovascular disease, hypertension, arthritis, cancers, diabetes, depression, and more (ACSM, 2019).

Another misconception about strength training in women is that light weights and high repetitions are the best option to choose. Using light weights does not permit proper muscle growth and muscle definition. (Chopra, 2015). In order for muscle growth and definition to occur, the fast twitch muscle fibers (type 2 muscle fibers) have to be activated, and this is done through lifting heavier weights. In addition, there are no apparent differences in the muscle cross-sectional area of men and women (Baechle & Earle, 2008). Therefore, despite disparities in resistance training beliefs between males and females, muscle quality is not based on sex, implying that women should engage in heavier lifting, commonly reserved as masculine type workout regimen.

A study was conducted on female distance runners to determine how strength training impacts the running economy (Johnson et al., 1997). Females participated in a 10-week strength training program and were compared to females who participated only in an endurance training program. Each subject was tested for values such as treadmill running economy, body composition, and strength level. The results of this study showed that when strength training was added to endurance training, the running economy improved. Therefore, strength training can improve strength with all types of athletic populations, even when resistance exercise is not the main training tool.

According to research, women have the ability to increase strength at the same rate as men, and possibly even faster than men (Baechle & Earle, 2008). Relative strength increases are the same for both sexes. There is no concrete evidence that resistance training programs should be

different between men and women. Resistance training programs for both sexes should be designed to improve muscle performance in general.

Harvard Medical School found strength training is a very important exercise type for all people. Strength training builds muscle, which can lead to stronger bones. Strong bones are very important for women due to higher risk of osteoporosis later in life. (Hong & Kim, 2018). Osteoporosis is a condition in which the bones become very fragile due to tissue loss. Strength training can prevent loss of bone mass due to the increase in tension applied to body with weight resistance. Strength training can also sometimes even build new bone and improve bone mineral density, which is another positive health effect.

An ACE Certified Personal Trainer named Shana Verstegen gave her personal story about her grandmother, who suffers from osteoporosis (McCall, 2014). She claimed that her grandmother wished that her era had known about the importance of strength training, because she would not be so frail now if she had participated in resistance training when she was younger. It is so important to educate women about the benefits of strength training that can have life-lasting effects, including preventing these chronic medical conditions prevalent in society. Nestler et al. (2017) studied the effects of training on muscular strength and other health variables for women. The results found that for each training session, there was an increase in strength in subjects. Findings also revealed a reduction in pain among the subjects upon completion of training. Using low intensity training sessions gains were observed. According to the evidence supporting why strength training is beneficial for women.

Body Image

While strength training is so important for women, just as important is the conversation about positive body image with increasing negative social media influences. Many females hold negative body image, unhappy perceptions of their body size, producing insecurities with exercising and engaging and regular physical activity. To help improve female views, marketing tools have incorporated body positivity to assist women to feel better about themselves and to embrace feminism in today's world. Luck (2016) researched how body positivity is portrayed in the media and in advertisements. Her research explains different marketing platforms that have given rise to the idea of body positivity which is the fuel of this current study.

One company that is very much a proponent of body positivity is Aerie, the underwear and swimwear company owned by American Eagle. Aerie launched a campaign called "Aerie Real", in which the company stopped using any digital retouching of their advertisement images, instead using real people without being edited (Luck, 2016). The company seeks to portray models of all sizes, everyday looking females, rather than unrealistic supermodels to help improve acceptance of body image. Luck (2016) also examined another company that is body positive, Swimsuits for All. This company sells plus-size swimwear helping to change societal view of female bodies and acceptance of all. Feedback from their innovative advertisements has received support with displaying women in plus-size swimsuits, sending the message of bravery and acceptance. Luck (2016), states that any woman can wear a swimsuit, and that all should feel comfortable in their own skin. Another advertisement in support of body positivity is Special K, the cereal brand. In their commercial called "More than a Number," women entered a store to purchase jeans without actual sizes. The commercial has store employees with measuring tape with words such as "radiant" and "confident" to minimize the pressure of waist circumferences.

The message of the commercial provides an empowering and freeing feeling for jeans without worrying about the numbers and actual waist size.

## Social Media

Social media has both positive and negative aspects. Social media can improve one's body image by a new movement to help women embrace their own body and acceptance. On the other hand, social media portrays an ideal that is unrealistic, creating the pressure to be thin. The organization Eating Disorder Hope has detailed how body positivity has grown in social media, and more people are realizing that social media should be inclusive of all body types (Hope, 2018). There are also several social media support groups encouraging positive body image for women. Instagram has made eating disorder keywords unsearchable to avoid users being able to see photos that might evoke an eating disorder as a lifestyle choice. Cohen et al. (2020) conducted research on social media and body positivity. Almost 200 women were exposed to one of three groups: body positive content, content with thin women, or appearance-neutral content. Content and images all came from Instagram, a commonly used social media platform. Results showed that the women who looked at the body positive content had improved body image and improved mood. Women who looked at the other content were not as satisfied with how they felt after looking at these posts. Therefore, the importance of our surroundings and what people are viewing has the potential to have a powerful impact on how one views themselves and others in our society.

While there are positive effects of social media, there are also negative impacts that affect body image. According to one study, women easily compare their appearances negatively to



others' online. Fardouly et al. (2015) used Facebook to research how the use of this social media platform affected body image. Over 200 female college students were tested on whether appearance comparisons on Facebook, or comparisons to specific female target groups (such as friends), had an effect on body image. The results of this study found that higher Facebook usage increased body image concerns. Females were more likely to compare themselves to other females' appearances when using Facebook. Subjects were also more concerned with their own appearance on Facebook and spent time making sure they used images that portrayed their best appearance.

#### Benefits of Group Exercise

Group exercise is a beneficial and motivational way for people to workout. Wing and Jeffrey (1999) studied the benefits of social support with weight loss using a 4-month weight-loss program both with and without a social support system. Participants who had peers to cheer them on had greater weight losses than those who conducted the program alone with no social support. Findings revealed 95% of those who started the weight-loss program completed the program if they had social support/friends. This can be compared to only 76% of people who completed the program by themselves, demonstrating the value of exercising and participating in a group setting.

Feltz et al. (2011) studied the effect of the "Köhler effect," which is the phenomenon that a person is more likely to work harder in a group than when working alone. Participants in this study were assigned to one of four conditions: individual control, coaction, additive, and conjunctive. Each group performed several isometric plank exercises in an exercise game. The

first series was performed alone. After this initial phase, the groups who had partners were assigned into their groups. The results of this experiment showed that performance and persistence of the exercise was higher in the groups with at least one partner. The lowest performance level was seen in the group of individuals who did not perform with a partner. This study increased evidence to the fact that working out even with just one partner can improve performance.

Group exercising has been growing in the past few years with explosion of programming such as CrossFit, aerobic classes, spin cycling classes, and other forms of working out with others (Steinhilber, 2018). Group fitness can also positively impact our health and commitment to physical activity. Plante et al. (2010) found that people tend to gravitate towards the behaviors of those around them). Another study found that overweight people are able to lose more weight if they spend more time around friends who are physically active (Andersson & Christakis, 2016). Another study researched whether the stress-reducing benefits of exercise were improved when one exercised with another person or in a group setting. Plante et al. (2001), measured emotions and attitudes using questionnaires measuring things such as level of calmness and energy. The questionnaire was completed before and after exercising (stationary bicycle for 30 minutes) and again later in the day. Some subjects exercised alone, others exercised with another person who talked to them, and some exercised with another person who remained silent during the workout. The results showed that when people did the cycling workout with another person, they felt calmer after the workout than when cycling alone.

College Involvement

While exercising in a group can be motivational, joining a campus organization can be just as empowering. The College of St. Scholastica (2017) explains that joining a campus organization can permit one to build skills and provide social support. Working in groups can allow someone to grow in teamwork and as a leader and confidence. During college, joining a sorority can be a great way for women to get involved while also being in a female-empowering environment. Sororities allow for many leadership opportunities. Each person in a sorority is in charge of an event or duty, which can allow them to gain leadership skills (Glass, 2012). Sororities also participate in community service, beneficial both for members and the areas they are serving. Grand Valley State University (2019) explains that Greek life allows for many career networking opportunities. Many alumni of Greek life come back for anniversaries and other events, and many alumni give back to the organization as well.

## CHAARG

CHAARG, is a campus organization with the motto “Liberating Girls from the Elliptical.” An article entitled “Fitness 'sorority' looks to liberate women from the elliptical” delves more into this organization (Sherrer, 2015). CHAARG stands for Changing Health, Attitudes + Actions to Recreate Girls. The organization was created in 2012 by Elizabeth Tavierne, an Ohio State University student who was an exercise science major. Tavierne realized that when she entered the gym, there seemed to be a divide: the men were in the weight room with women mainly on the treadmills and ellipticals. While cardio is not a negative form of exercise, the women in the gym did not seem to be enjoying their workouts. In stark comparison, men seemed to do the

opposite: displaying positive attitudes and enjoying their resistance training workout in the weight area (Koman, 2015). Douglas-Gabriel (2016) explained that Tavierne had the idea of creating an organization in which females on college campuses could find the types of workouts they enjoy doing in order to “find their fit” in the gym. Tavierne was also involved in a sorority, and she felt that this new organization could be similar to a fitness sorority. She partnered with Sarah Clem from the University of Cincinnati and two students founded the organization. Over the years, CHAARG, has grown with chapters at over 70 universities throughout the nation.

Each campus with a CHAARG chapter is an ambassador, the head, who oversees a 6-member team consisting of two event coordinators, VP membership, VP media, treasurer, and secretary. The team works together ensuring the chapter creates events for members and communicates with instructors. The team hosts new fitness instructors to teach a workout class each week to members. Each team member also leads her own personal small group, and this group of females attends the gym and participates in new workouts together. CHAARG also hosts socials and other events throughout the semester for females to participate, bond and network with other members. Each chapter also uses Instagram to communicate and share fitness information. Many members created their own Instagram pages to share personal growth and fitness goals with each other. The social media accounts support body positivity and female empowerment, which is what the organization strives to encompass. This investigation explores female college students' views of their experience in CHAARG. Understanding how to engage more women in strength training and healthy lifestyles may fuel increased adherence rates.

## **Methodology**

Q-methodology is a mixed method technique that studies participant viewpoints on a researched topic of interest. This method of inquiry is able to capture subjective views. Individual Q-sort data is gathered along with qualitative responses from participants, and based on this information, participants are placed into groups based on similar viewpoints. Data is analysed using PQ Methods software for factor analysis. In this format, Q-methodology allows for a discovery of common themes that result from participants' perceptions of their experience.

To understand female members' views of their university experience in CHAARG, Q methodology was used to explore viewpoints to provide a better understanding of membership motivation. A total of thirty female members of The University of Akron CHAARG chapter volunteered for this study. There were no criteria for subject inclusion, as long as the female was a member of Akron CHAARG and over the age of 18. Permission from the Institutional Review Board was obtained prior to data collection. Before data was collected, participants were given instructions about the study, signed an informed consent form, and were able to ask any questions. Basic demographics of the females were collected, and they were all shown to have similar experiences (Table 1).

Average Age	Average days of aerobic/cardio	Average days of strength training	Regularly exercised prior to CHAARG	Exercised in a group setting prior to CHAARG
20 $\pm$ 2	4 $\pm$ 2	2 $\pm$ 2	22	10

Table 1: Participant Demographics

Q methodology was the chosen method for this research project in order to study subjective viewpoints of females regarding their experiences in CHAARG. This type of study is beneficial

because it mixes both quantitative and qualitative data gathering. This type of study allows for a direct measure of responses from participants that are able to be interpreted (Bashatah, 2016). It also identifies with participants' perspectives of the subject at hand.

Using Q-methodology, researchers create a sorting activity and survey that was completed by each participant during data collection. This surveying session lasts approximately 30 minutes, and 44 Q-sort statements (Table 2) were sorted according to the individual's views on each statement. Participants ranked statements on a scale from -5 (most unlike my view) to +5 (most like my view) (see Figure 1). The 44 statements (shown in Table 2) encompassed six major categories relating to topics of CHAARG and its effects on members: strength training, body image, social media, benefits of group exercise, college involvement, and general involvement in CHAARG. These six categories were chosen by the researcher as key areas to explore. The 44 statements were equally dispersed throughout the categories to ensure the Q-sort was comprehensive.

Table 2: The 44 Q-sort statements read and sorted by participants

No.	Statement	No.	Statement
1	Gaining muscle will help to improve my confidence.	23	I find exercising alone to be difficult.
2	Women who strength train feel empowered.	24	Student organizations require too much time.
3	Promoting the acceptance of all bodies is important for everyone.	25	CHAARG is an important component of my identity as a college student.

4	Women need to lose weight before they begin strength training.	26	I want to change my body by becoming more fit.
5	All people deserve to have a positive body image, regardless of societal pressure.	27	Social media has negatively impacted how I feel about my body.
6	I think that being involved in a campus organization provides me with the opportunity to gain leadership skills and abilities.	28	I feel that men judge women in the weight room.
7	CHAARG is a body-positive environment.	29	Women feel comfortable going to a gym and using equipment and weights.
8	Strength training is a predominantly male activity.	30	I believe it is important to be involved in a campus organization.
9	CHAARG is a well-known student organization around campus.	31	I often feel quiet and/or shy.
10	My body can accomplish more than I once thought I was once capable of.	32	Upon leaving the university, I am fearful that I may not continue to exercise as I will no longer be a CHAARG member.
11	Women who have defined muscles are less attractive.	33	Social media has negatively impacted how I feel about my body.
12	CHAARG provides me an opportunity to workout while being involved in a supportive group.	34	The shape/size of my body can prevent me from doing something I want to do.
13	It is important to form relationships with other University of Akron students through campus involvement.	35	Women feel awkward and uncomfortable strength training.
14	Exercising in a group setting is motivational.	36	Watching strength training on social media motivates me and helps me to be committed and try new fitness routines.

15	Society's standards of an "ideal" body type makes me feel inadequate.	37	I want to lose weight.
16	Women prefer aerobic/cardio exercise more than strength training.	38	CHAARG has helped me to become a healthier individual.
17	CHAARG has helped me learn to strength train.	39	I believe that strength training is an important part of an overall exercise program.
18	Lifting weights has helped me to maintain a consistent weight.	40	I worry about how others perceive my body.
19	Being physically fit is a constant stressor.	41	Working out with all females feels more supportive.
20	Exercising with others helps to keep my intensity elevated.	42	I fear being judged by others while exercising.
21	I feel a greater sense of belonging at the University of Akron because of my organization involvement.	43	CHAARG has boosted my self-confidence and self-image.
22	There should be a CHAARG chapter at every university.	44	I feel uncomfortable if someone tries to correct my form while exercising.



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Figure 1: Q-sort grid for 44 statements

Upon completion of sorting the statements (Q-sort), participants were asked why they selected the four statements they placed under +5 (most like my view) as well as why they selected the four statements they placed under -5 (most unlike my view). Participants provided background information regarding their personal exercise routine; many days per week they perform aerobic/cardio activity, how often they participate in strength training, whether or not CHAARG affected how much they exercise, and if they had prior experience exercising in a group setting. Other demographic information (age, height, weight, college student major) were also collected. The information collected in this section was used to distinguish any common themes among members. Due to COVID-19, data was not actually collected. The following is the researchers' hypothetical findings that may have surfaced among data collect and analysis demonstrating a firm understanding of the research process.

## Results and Discussion

Thirty participants completed the Q-sort data and data analysis revealed two distinct viewpoints/factors emerged. The first factor included 14 members, and the second factor included the other 16 members. Both of these factors are explained below.

*Factor 1: The strength trainers.* The Factor 1 participants include those who have strength trained in the past, and they understand the importance of strength training and see it as a necessary part of an overall workout regimen. This group of girls joined CHAARG not to learn how to strength train, but rather to get more involved in a campus organization that portrays what they identify with. These females value strength and fitness and wanted to find other ways to exercise as well. The statements that best represent their “most like” and “most unlike” views are shown in Table 3.

These *strength trainers* feel empowered when going to the gym and are comfortable working out around others. The statements they most agreed with were about how strength training should be part of an overall exercise program, as well as the importance of lifting weights and staying in shape. They also believed that women feel comfortable going to the gym and using equipment and weights. These women have been strength training prior to joining CHAARG, so this organization fit right into their interests. The *strength trainers* disagreed with the idea that women with defined muscles are less attractive. They also don't feel uncomfortable if someone wants to correct their form. They are willing to allow others to help them out when necessary. This group also disagreed with the statement that CHAARG has helped them learn to strength train. This shows that they knew how to strength train prior to CHAARG, but they still think very highly of the organization.

Table 3: Factor 1 top four (4) most like / most unlike statements		
No.	Statement	Grid Position

2	Women who strength train feel empowered.	5
18	Lifting weights has helped me to maintain a consistent weight.	5
39	I believe that strength training is an important part of an overall exercise program.	5
29	Women feel comfortable going to a gym and using equipment and weights.	5
15	Society's standards of an "ideal" body type makes me feel inadequate.	-5
11	Women who have defined muscles are less attractive.	-5
44	I feel uncomfortable if someone tries to correct my form while exercising.	-5
17	CHAARG has helped me learn to strength train.	-5

*Factor 2: The newbies.* Factor 2 includes those who never regularly strength trained but found that CHAARG gave them the confidence to start doing so. This group had never known much about strength training or going to a gym, and a lot of their reluctance to begin stemmed from inner insecurities. This group of women did not regularly strength train before joining CHAARG, and this organization introduced them to this new realm of working out. Therefore, they joined CHAARG in order to learn how to workout and see what different exercise styles they enjoyed most and found to be most effective. These women also enjoy the community aspect of the organization and feel that group exercise is motivational for them to work harder during an exercise session.

*The newbies* agreed with the statement that CHAARG has helped them to strength train. They also feel uncomfortable going into the gym for a fear of being judged by men. This group also

feels that social media has had a negative impact on their body image, and a lot of them agreed with the statements about body image. This group fears being judged while exercising, which prevents them from doing what they wish they could do.

This group disagreed with the fact that student organizations require too much time, which shows that they do not feel that CHAARG is a time-waster. They also disagree with the statement that women need to lose weight before beginning to strength train. This group jumped into CHAARG without any strength training background, and they began this without the intention of losing weight prior to training. In addition, *The newbies* disagreed with the fact that being physically fit is a constant stressor, which shows that they never thought much about fitness prior to CHAARG. They also disagree with the statement that women feel comfortable going to the gym and using weights. This group is not used to regularly going to the gym, so it would make sense that they would have this belief.

Table 4: Factor 2 top four (4) most like / most unlike statements		
No.	Statement	Grid Position
17	CHAARG has helped me learn to strength train.	5
28	I feel that men judge women in the weight room.	5
27	Social media has negatively impacted how I feel about my body.	5
42	I fear being judged by others while exercising.	5
24	Student organizations require too much time.	-5
4	Women need to lose weight before they begin strength training.	-5
19	Being physically fit is a constant stressor.	-5
29	Women feel comfortable going to a gym and using equipment and weights.	-5

*Comparison of findings.* The *strength trainers* and *the newbies* both agreed with the positive statements about CHAARG and the impact on their lives. They agreed that CHAARG is a body-positive environment that allows females the opportunity to workout while being involved in a group. Both groups also agreed with the fact that exercising in a group setting is motivational, and that working out with all females feels more supportive. It appears that both groups feel comfortable working out in an all-female environment. Both groups also worry about how others' perceive their body, which shows that everyone does have a common goal: to feel comfortable in their own skin. This is something that CHAARG strives to accomplish, and it provides ample opportunity for growth in body positivity.

It appears that the main difference between the two groups was the lack of knowledge about strength training. The *strength trainers* were already highly familiar with going to the gym and strength training, so they were comfortable and confident to perform resistance training workouts. However, *the newbies* were not exposed to this workout type and were more experienced with cardio. Therefore, this group was not yet comfortable strength training for fear of improper form or getting an injury while resistance training. The fear of the unknown was a large factor preventing *the newbies* from trying strength training. However, being a part of CHAARG changed their feelings about strength training and made it less intimidating.

*Limitations: Note about Coronavirus (COVID-19).* Due to the restraints of the recent pandemic of the Coronavirus (COVID-19), data collection was not possible in a Q-sort methodology. However, results were taken based on prior knowledge on the subject as well as information from the literature review. These results came from what was expected to happen if

the Q-sort survey were to have been conducted. The best educated guess was given about the results of this experiment.

The data in this study was self-reported, meaning that participants may have overestimated some of their answers, such as how many days per week they perform aerobic/cardio activity or strength training. This Q-methodology form of study is not generalizable; however, we are able to generalize within the population at hand. Some factors may not have emerged because this was a small population of females with the same interests.

*Areas for Further Research.* It is important to continue compiling information about CHAARG and how it impacts females. Actually, carrying out this Q-sort methodology would be great for future research, as the survey was not able to be conducted for this project due to COVID-19. In addition, future research could be done on CHAARG women all throughout the nation, as this organization spreads throughout many universities. Opening this survey up to more women with the same interests can give more insight as to why these women join CHAARG and choose to stay in this organization. Perhaps looking into these female's backgrounds can give us more information about their reasoning for joining CHAARG, such as wanting to be part of a group or wanting to become a healthier individual. Perhaps some of these females were athletes in high school and wanted that same type of experience and bonding at the college level. These are all different factors that could be considered for future research. We could also focus more on strength training in general for females and conduct a Q-sort on why females choose to or not to strength train. This would give us more insight as to how we can bring strength training to women all over.

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